ESS-559

THE INVISIBLE CRISIS

ENERGY POLICY ALONG THE ROAD TO 1985.....AND BEYOND

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DEPARTMENT OF AGRICULTURAL ECONOMICS
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The Invisible Crisis

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Contents

Preface

The following illustrations and text were developed for use in presentations dealing with U.S. energy policy. The illustrations identify some of the major participants in the current energy policy debate, depicting their role, both as contributors to the problem and to it's solution. While everyone has a stake in the outcome of a national energy policy, it is possible to show only selected "actors" that are intended to be representative of the major interest groups involved.

The focus is on medium term policy that addresses the expected "1985" supply shortfall in world oil production. The anticipated price rise for world oil will cause serious economic problems -- hence the emphasis on showing the economic aspects of the "Invisible Crisis". Therefore, the cross section of energy producers and consumers focuses on oil suppliers and users.

Portions of the illustrations are very time specific. For example, since we are in the midst of a first national debate on energy policy, we have a "Carter Proposal" and a "View From Congress". These will soon evolve into a National Energy Plan. This time specific material will be updated at the appropriate time.

The central theme of the presentation is that energy can no longer be treated as an abundant resource. Low price and perceived abundance have allowed us to be wasteful both as producers and consumers. All of us, then, must bear part of the responsibility for making the adjustments and sacrifices dictated by the approaching shortages and higher prices. This will be accomplished jointly

by market and non-market (public policy) forces. Private interests are necessarily strongly represented in the national debate. The emerging policy will represent a compromise between these special interests and a broader national interest. It is an initial step. The national debate on energy policy will not terminate with this first plan, but will likely be an important policy issue for many years.

Companion education materials include (1) full page illustrations to be used for overhead transparencies (ESS-558) and (2) a slide and cassette tape set.

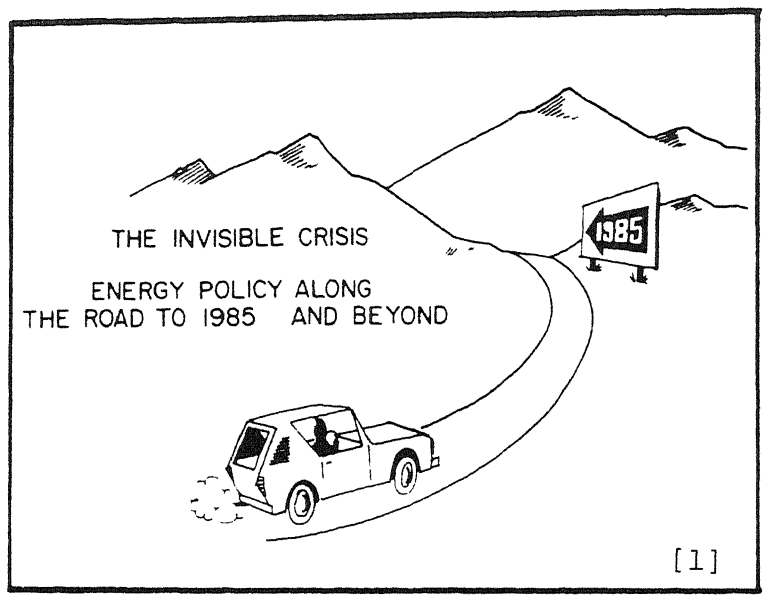
THE INVISIBLE CRISIS

ENERGY POLICY ALONG THE ROAD TO 1985...AND BEYOND

by Norman Rask, Extension Economist

The energy problem has been called "The Invisible Crisis". For those of us who live in the present, it may sound like this: we have plenty of gas at the pump, the pipe line is flowing from the North Slope, North Sea oil is coming on stream, there is plenty of oil on the continental shelf, etc., etc., etc. So what's all the fuss about?

Others, however, who attempt to look at general trends over time see some ominous indicators in recent energy production and use figures. U.S. production of natural gas and oil, for example, peaked in the early 1970's and has declined since. The North Slope oil will stabilize this downward trend for a few years only. Meanwhile, our demand will continue to increase along with more imports of oil, which are already running at about one-half of our use.

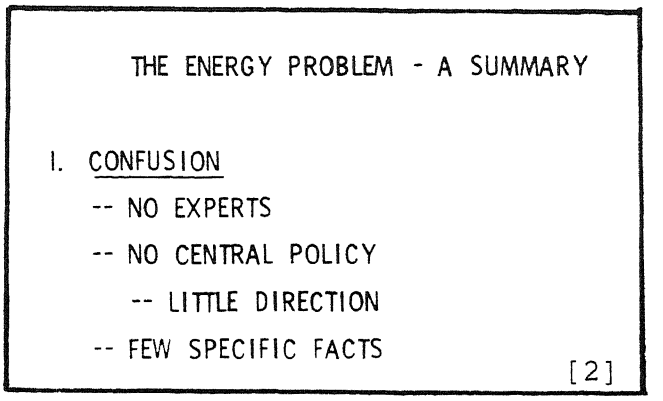


They see a problem developing down the road and around the bend say about 1985 [1]. This will not be a small problem such as the OPEC price increases of the early 1970's, but a major price change that will cause serious economic consequences for the world economy. It is already quite late to begin preparation for this "Invisible Crisis"; however, any action we take now will help cushion the economic shock waiting for us down the road a few years from now. Continuing with a "business as usual" philosophy will only add to the problem later on.

How did we get into this fix? Why are there so many conflicting opinions? What are the general trends that most "experts" agree on? Let's look at these questions and others in summary form as a background for understanding the current policy debate.

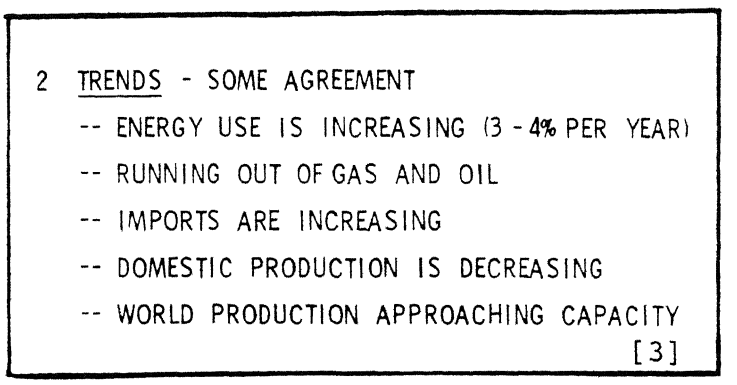
The Energy Problem - A Summary

The present confusion over the energy situation results from a rapid change in our perception of energy [2]. We have moved from a perceived abundance and low price for energy a few years ago, to the present concern over scarce supplies and sharply higher prices.

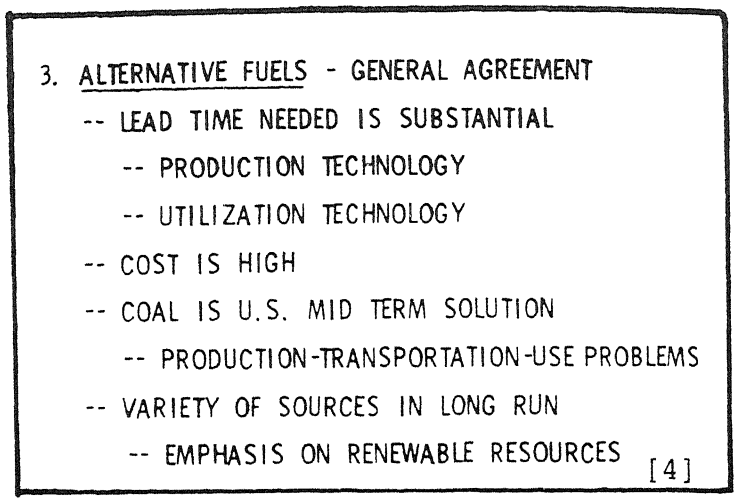


This swift change in perspective has caught us unprepared. There is considerable confusion, as well as credibility problems, as we try to sort things out. The major effort we are now undertaking to formulate an energy policy requires people who are "expert" in energy questions, a broad base of well tested data and information, and a philosophy about energy use that can help us organize the facts and design an equitable long range policy. Unfortunately, this all takes time to develop, and we have started late.

A general concensus and acceptance, however, seems to be emerging on some broad questions [3]. Following a temporary drop in energy use, consumption has continued to rise in recent years at near the pre-1970 growth levels of 3-4 percent per year.



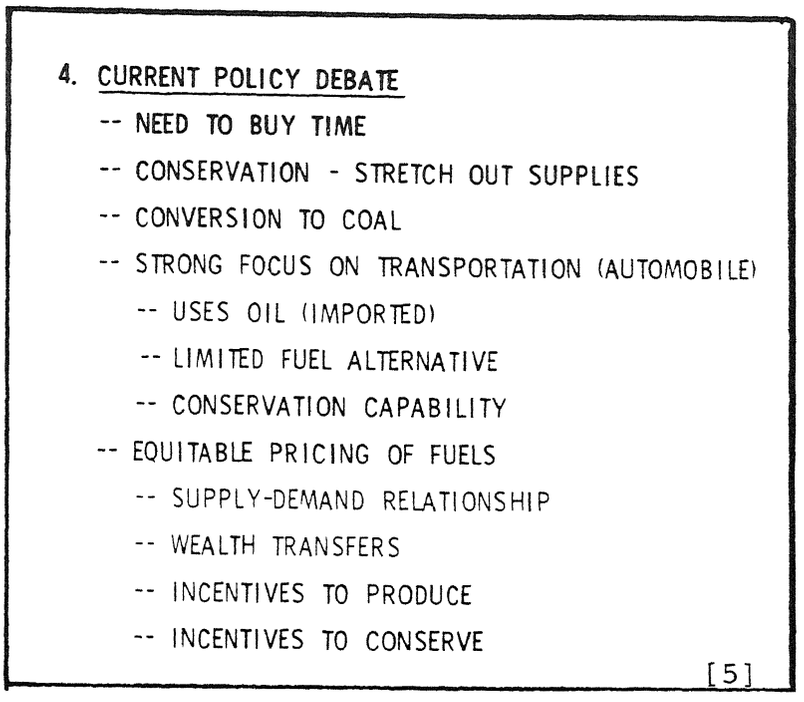
Imports of oil have increased substantially, even at the higher prices, while domestic production of both gas and oil has fallen off since 1970. The continued availability of imports, however, may come under stress within a few years (1985) as continued increases in world demand put pressure on OPEC production capacity.



As we begin to phase out of gas and oil, alternative fuels must be developed [4]. This raises a host of additional concerns -- principally cost and time. We need to accept the fact that the cheap energy era is behind us, that the alternatives are all expensive, and that it will require long lead times to commercially develop significant quantities. This includes changes at both the production and end use levels. A mid-term solution in the United States is coal. We are becoming familiar with the environmental, transportation, conversion, and cost problems associated with a substantial switch to coal. Again this will take time. We are fortunate, however, to be blessed with a large share of the world coal reserves. Many countries do not have a similar mid-term solution.

In the long run, a variety of energy resources will be used to meet our energy needs. Many of these, such as solar, biomass, nuclear, etc., are presently not cost effective or have other use or production problems that preclude widespread adoption at this

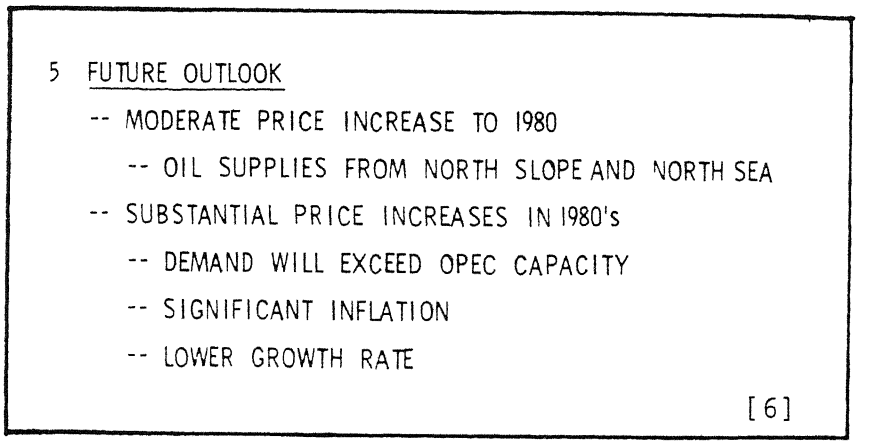
time. As the technical and cost problems are overcome, we can expect to see the new sources providing a substantial part of our energy needs. The expected price increases for fossil fuels will accelerate these developments.



This is the arena in which the current policy debate is taking place. The need to buy time for conversion to alternative fuels is clear [5]. Thus, there is a strong effort to conserve nonessential uses of energy and thereby stretch out existing supplies of gas and oil. Coal is a mid-term solution, and significant rewards and penalties are being discussed as a means to increase production and hasten conversion to coal use. The automobile occupies a center stage position in the policy debate. It is a large user of liquid fuel (oil) which is imported in increasingly large quantities. There are limited alternative fuels presently available for transportation use, and significant savings in gasoline use can be accomplished without seriously affecting life style. These facts all combine to make the automobile a principle target in our national conservation effort.

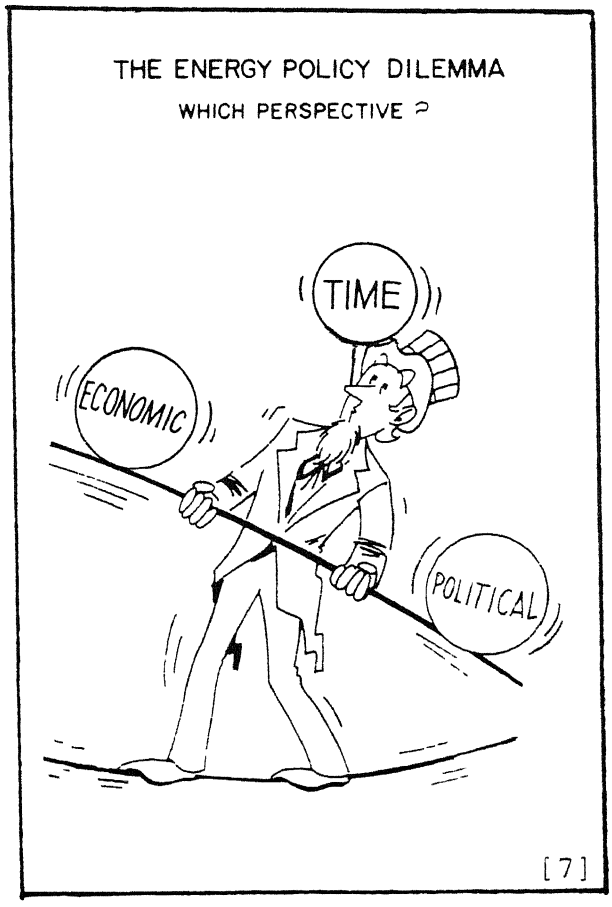
With rapidly rising energy prices, an OPEC monopoly pricing structure, regulated U.S. producer prices, and the need to use price signals as incentives to spur domestic production and conservation, much of the heat in the policy debate will turn on the pricing questions. There will be gainers and losers in the pricing decisions. Tremendous wealth transfers are possible, and special interest group pressures are intense.

To summarize the future outlook, it appears that oil prices will show only moderate increases before 1980 [6]. North Slope and North Sea oil will take up the slack for a few years. However, during the 1980's, world production limitations will result in significant price increases as countries bid up the prices for the limited supplies of oil. We can expect a rekindling of inflation to accompany this price rise and somewhat lower growth rates or even economic declines as industrial economies once more adjust to a relative change in energy prices.



The Energy Policy Dilemma

We now turn to a closer look at the process of public policy making. Energy policy must resolve many conflicting interests and may be approached from several different perspectives [7]. Three are suggested here. They include: (1) a time perspective, (2) an economic perspective, and (3) a political perspective. Economic and political considerations, even if considered separately, would result in substantial disagreement between special interests. The appropriate time frame in which to consider economic and political questions adds an additional area of controversy. This debate and disagreement is heightened further when we consider all perspectives simultaneously in an attempt to evolve a single national energy policy in a short period of time. Let's look more closely at each perspective.



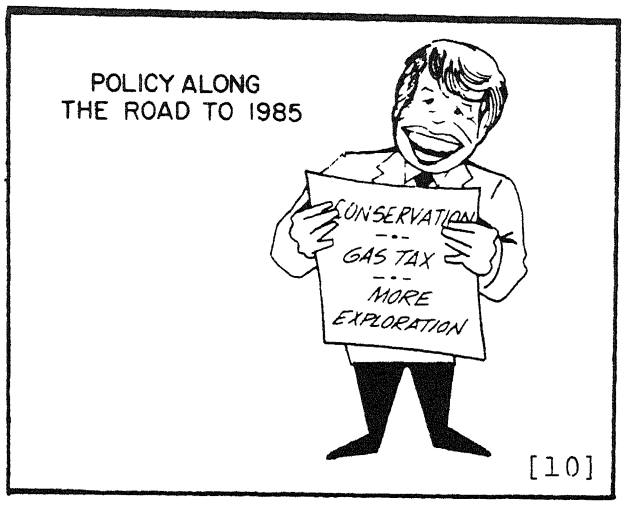
A TIME PERSPECTIVE

- -A COLD WINTER
- -THE ROAD TO 1985
- -BEYOND 1985

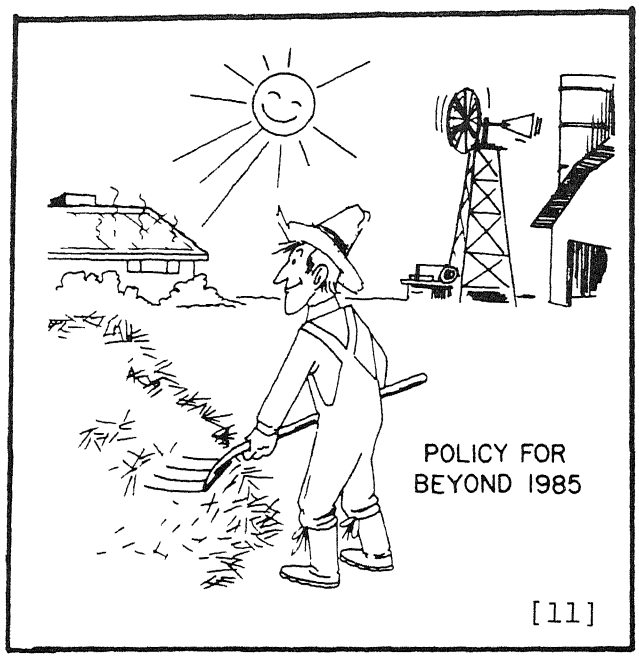
[8]

The first is a time perspective [8]. Here the energy problem can be conveniently divided into three levels. The first, is the very short run, which I have descriptively labeled, "the cold winter" [9]. At this level, policy is concerned with immediate energy problems, such as allocation of short supplies, reducing bottlenecks in distribution, establishing rate structures, and similar situations. These short run concerns must be met, however, they must not dominate policy. Longer run structural changes must be made as well to avoid greater short run problems down the road.

[9]



The second or intermediate term level is called "Policy along the road to 1985" and focuses on the expected shortfall in world oil production during the 1980's [10]. Policy at this level deals with measures needed to avoid the economic consequence of a significant increase in energy prices. Since the time is short, major emphasis is on conserving existing energy supplies, conversion to alternatives such as coal and incentives to increase domestic production. This intermediate level policy is the focus of the Administration's proposal and the current debate in Congress. Since this is of immediate concern for policy resolution, it is also the principal focus of the remainder of this report.



The third level is the long run, or "beyond 1985" [11]. Policy at this level is concerned with developing energy systems that do not rely on finite energy sources such as gas and oil. Here we are concerned with identifying the proper energy forms and concentrating research and development efforts to bring them on stream sufficiently early to allow a smooth transition. Clearly, work must proceed at all three levels simultaneously. The danger is that we may become too preoccupied with the immediate short-run problems and neglect the charting of the long-run course. Again, the costs and needed lead times to change energy systems are great. We must look down the road, around the bend to 1985 and beyond, and begin to make our mid-course corrections soon.

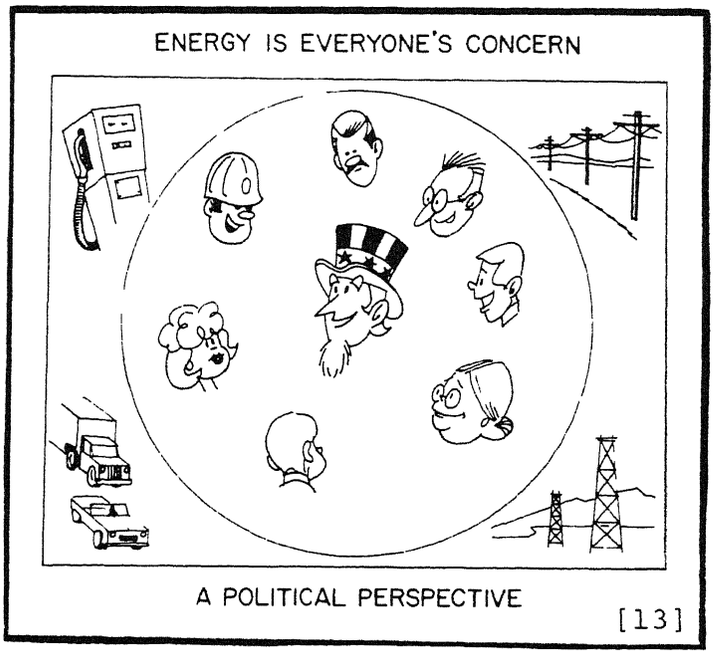
A POLITICAL PERSPECTIVE

-- CONSUMERS

-- PRODUCERS

-- POLICY MAKERS

[12]



The political perspective is at the heart of policy-making [12]. This is especially troublesome in the energy area, since everyone has a stake in the outcome of energy policy [13]. Not surprisingly each of us is looking to Uncle Sam to help us resolve our own special energy problems. In addition, we recognize a broader national concern that must be addressed by policy as well. As we try to sort out our individual interests and see how they relate to a broader national policy, it is important that we recognize the legitimate concerns and problems of other participants in the energy policy debate. This is essential if we are to have an effective national policy.

THE POLICY PARTICIPANTS

ENERGY DEMAND (CONSUMERS)

1) MR. N.R.G. GUZZ

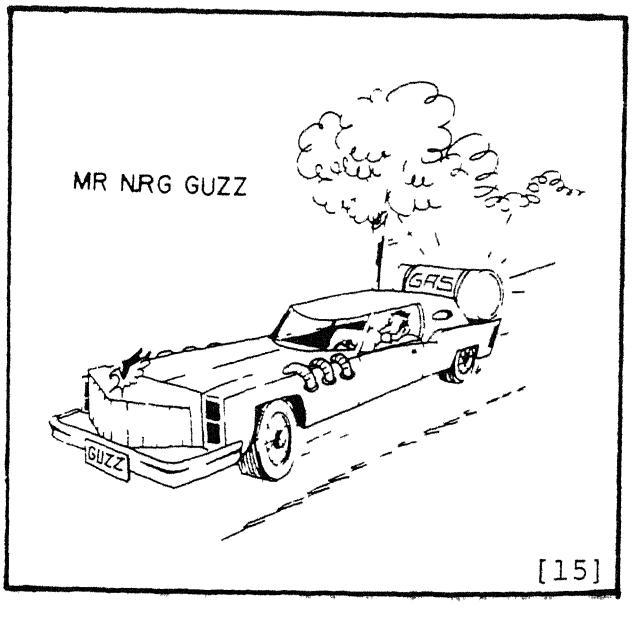
2) MRS. MIDA MERICA

3) AUNT EMMA

[14]

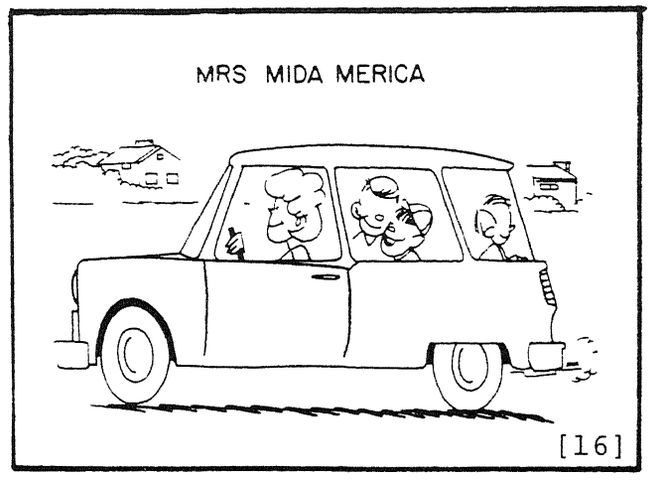
Who are some of the key policy participants in the current debates? Starting on the demand side, we can identify several that represent a broad cross-section of individuals [14].

The first is Mr. N. R. G. Guzz [15]. We are all represented at least a little bit by Mr. Guzz. Gas guzzling cars, heat wasting homes, and extravagant life styles that depend on a large use of energy to maintain or expand our way of life are examples. Implied as well is the necessary income to support this habit. Happily or unhappily, as the case may be, significant savings are possible by altering Mr. Guzz's behavior without seriously affecting the way he lives. Thus, he is a prime target for conservation incentives.



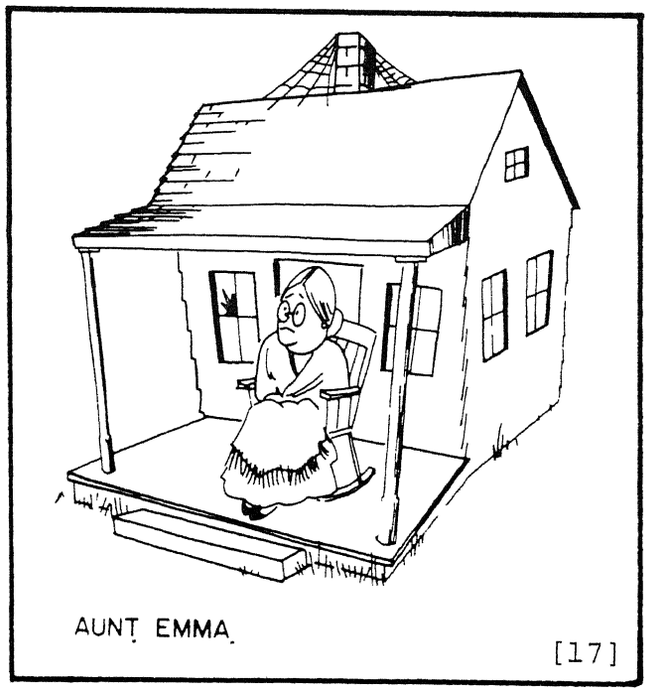
[15]

Mrs. Mida Merica represents the average situation [16]. It is important to recognize two things here. First, to be effective, energy policy and the implied adjustments must be borne to some extent by all of us, not just Mr. Guzz. Second, to be accepted, policy has to be supported by a majority of the people. Thus, middle America has to participate in, and politically support, national energy policy if it is to be effective.



[16]

Finally, we have to recognize the special situation of Aunt Emma [17]. Aunt Emma represents that segment of society on fixed or low income which will, in the short run at least, bear an unjust burden from rapidly rising energy prices. Policy must be humanitarian as well and take into account the special Aunt Emma situations.



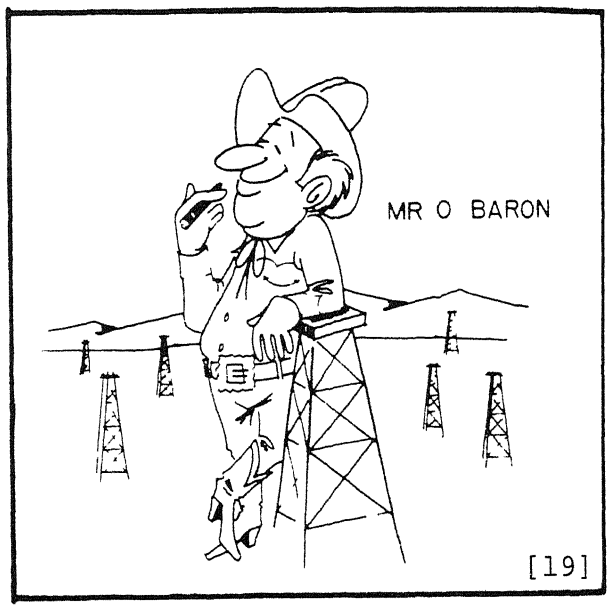
[17]

ENERGY SUPPLY (PRODUCERS)

1) MR. O. BARON
2) MR. NU WELLS
3) MONOPOLY SHEIK
4) PIPER LINES
5) MISS SCI TECH

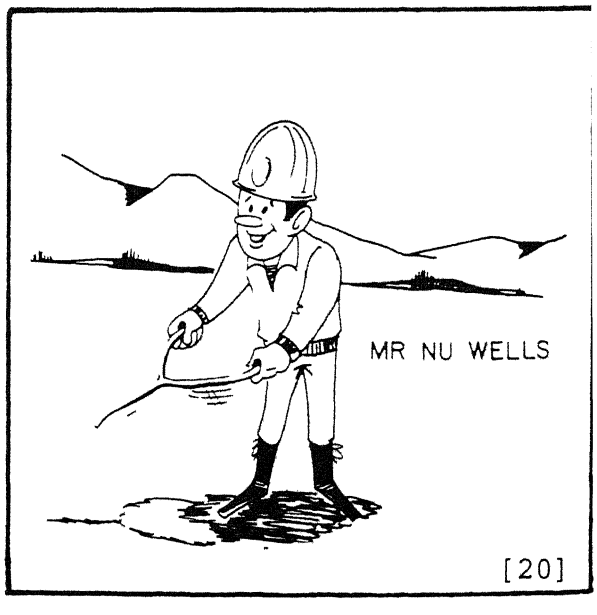
[18]

On the supply side, we also have many participants [18]. I have elected to concentrate on oil suppliers in developing representative situations, since the policy debate is centered largely on the oil problem. Others could be substituted easily.



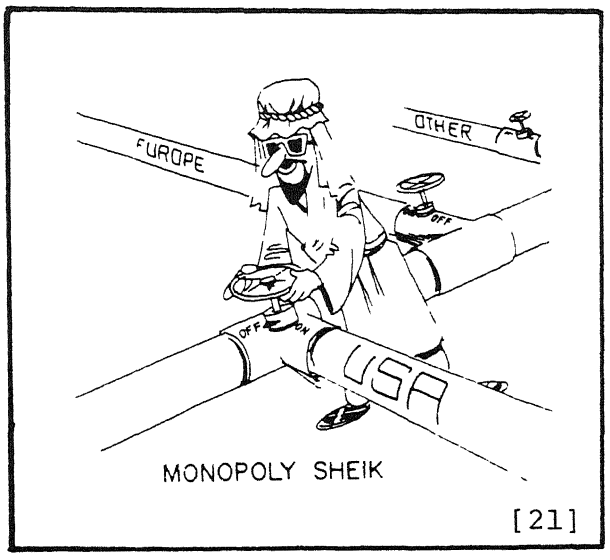
[19]

Mr. O. Baron leads off the cast [19]. He represents what has come to be known as "old oil". He is the principal source of current domestic production and finds his price regulated, at a low level. Mr. Nu Wells represents new discoveries of domestic oil [20]. He finds a regulated price also, but at a more attractive level. Mr. O. Baron and Mr. Nu Wells are vitally interested and involved in the debates over price deregulation and well head taxes.



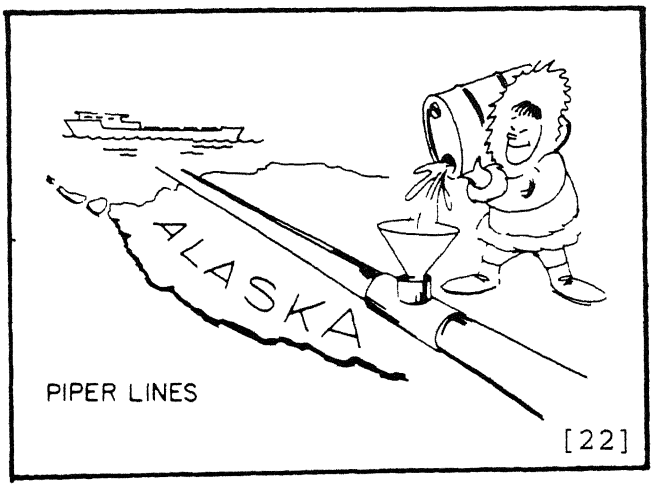
[20]

Monopoly Sheik is a new but very important actor in the energy arena [21]. He entered the contest in force in 1973, and permanently changed the economic rules of the game. We have little policy influence over his behavior but must adapt our policy to account for his actions. He can change the supply and price of international oil without the normal regard for market forces. As we become more dependent on imported oil, his power and influence increase.



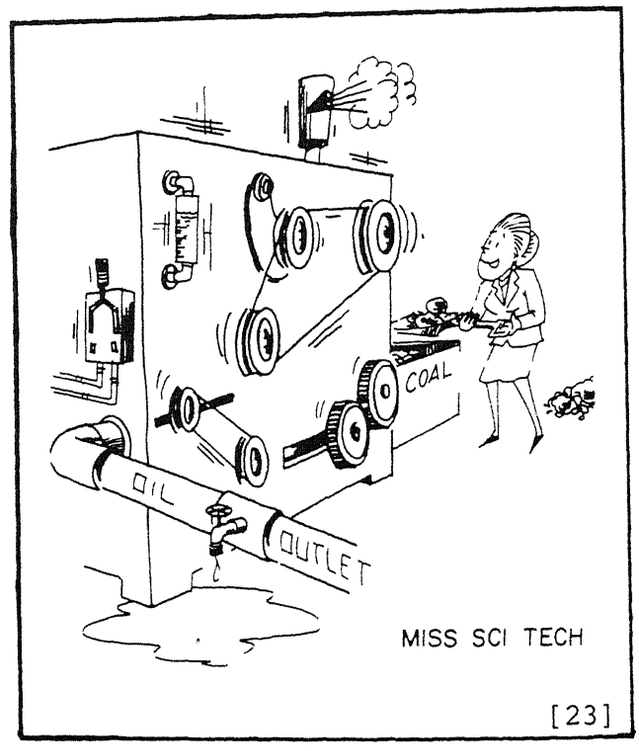
MONOPOLY SHEIK
[21]

An alternative to imported oil is increased domestic production. As established domestic reserves are used up, however, we must increasingly look to more remote and costly exploration for additional oil. Offshore production on the continental shelf and Alaskan oil are represented by Piper Lines [22].



PIPER LINES
[22]

Finally, if we are to make an orderly transfer to alternative fuels, we must develop the scientists and research facilities and provide the research and development support to bring the new sources on stream in a timely manner. Miss Sci Tech will be among the people that help supply the new ideas and methods needed beyond 1985 [23].



[23]

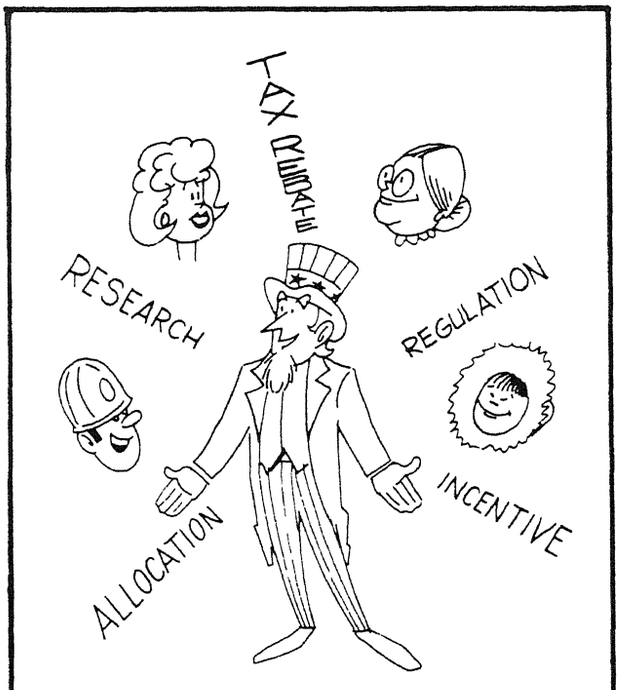
These people and interests represent a cross section of the consumer and producer participants in the current policy debate. Our cast of policy participants, however, would be incomplete without the politicians themselves [24].

POLICY

1) **UNCLE SAM**

2) **HOMETOWN REP**

[24]

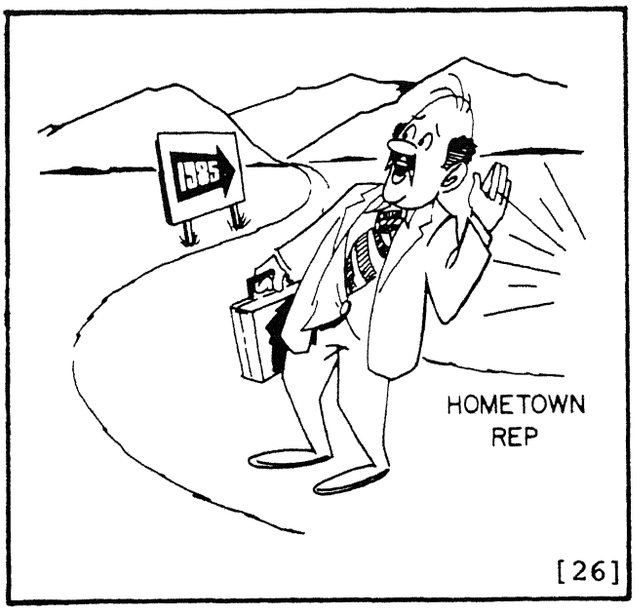


UNCLE SAM

[25]

Uncle Sam represents the national interest, where we are turning increasingly for the resolution of energy problems [25]. He may be thought of as the executive and administrative arm of government.

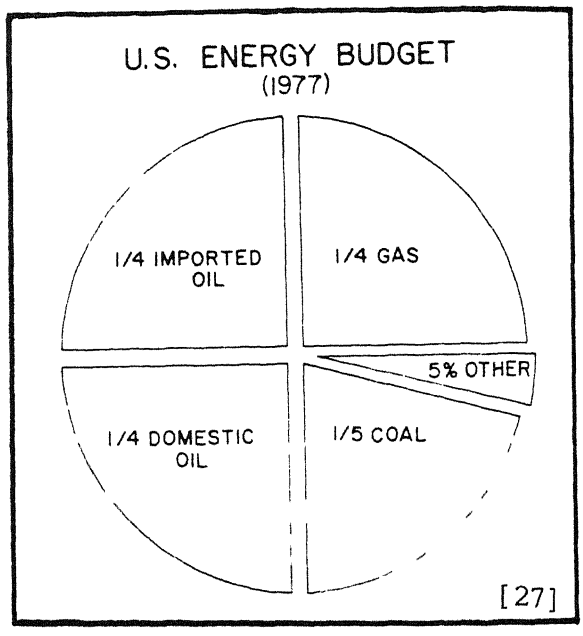
Hometown Rep is a critical participant [26]. He can recognize broad national problems, but he represents regional interests and is particularly attuned to the "folks back home". He is an extension of the public will. When and to the extent middle America is ready for a national energy program he will support it. In some cases, he is a barometer of how we all feel.



HOMETOWN REP

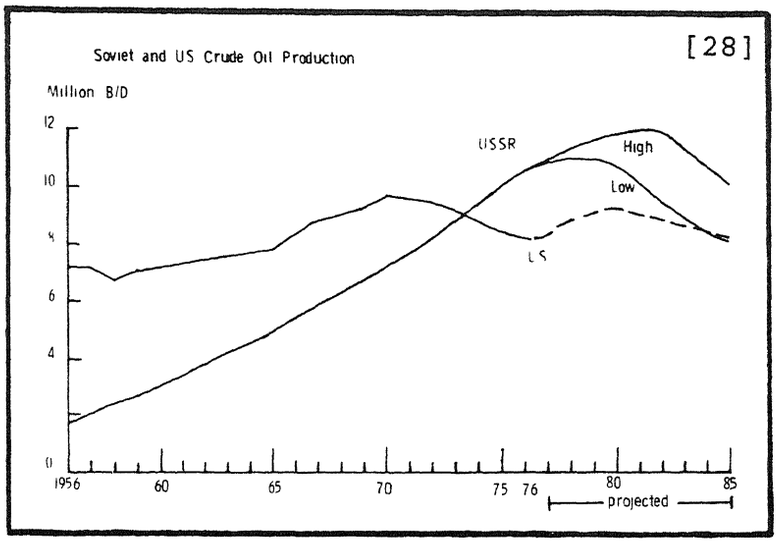
[26]

THE ENERGY SITUATION



The policy participants have been introduced. We turn now to a more detailed look at the energy situation they are debating in terms of our present use, supply projections, and energy pricing. These are the elements that collectively determine the nature of the energy problem. The current energy budget for the U.S. can be divided approximately in quarters, one for imported oil, another for domestic oil production, and a third quarter for natural gas [27]. Thus, oil accounts for about one-half of our total use, oil and gas together for about 75 percent. Coal at 20 percent and all others uses at 5 percent round out the total. Gas, oil and coal, our fossil fuels--account for 95 percent of total energy use in the United States. It's no wonder that impending shortages of fuels that make up three-fourths of our energy budget cause concern.

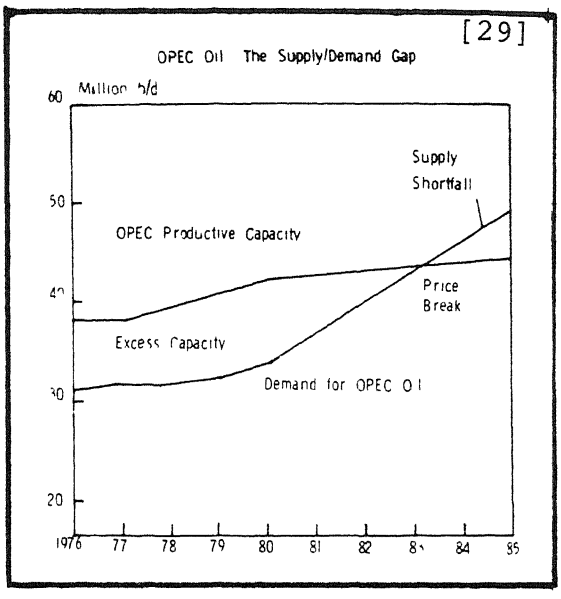
The factors that lead to the impending shortages of gas and oil are generally agreed upon. First, U.S. production, after rising steadily for many years finally peaked in the 1970's and has gradually declined since [28]. Over this period, new discoveries have not kept pace with the depletion of established reserves. Petroleum use, however, has continued to increase, and to meet this demand, imports have risen dramatically to half of our oil use.



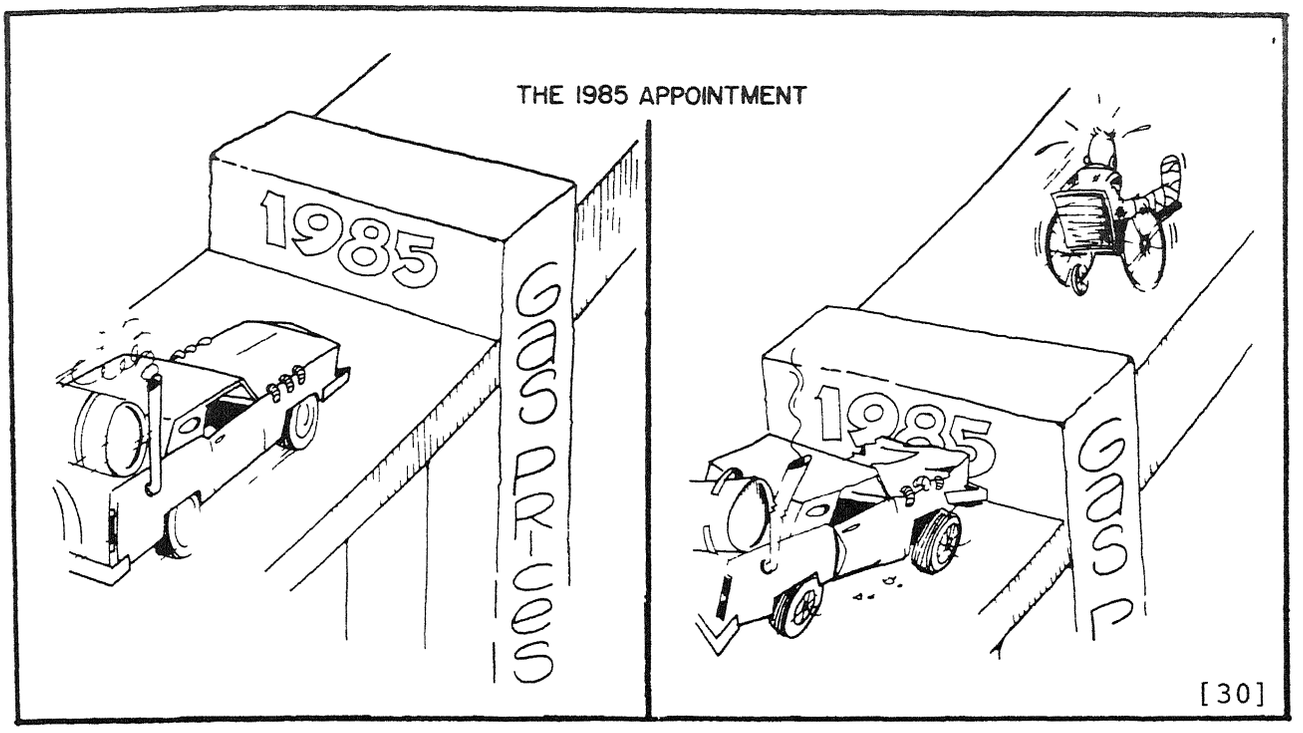
The Soviet Union is a sleeper in the impending energy crisis. Her production has increased quite rapidly, and she has ample proven reserves. Production in older oil fields in the Soviet Union, however, is declining, and she does not have the technology and capital to develop the new reserves fast enough. Thus, Soviet oil production will also decline soon, and may be at a high point now. She will have to curtail exports of oil to Eastern European countries and may have to resort to imports as well. Recent modest long run agreements with Iran to supply the Soviet Union and other Eastern European countries with oil underscore the domestic production problems being encountered in the Soviet Union.

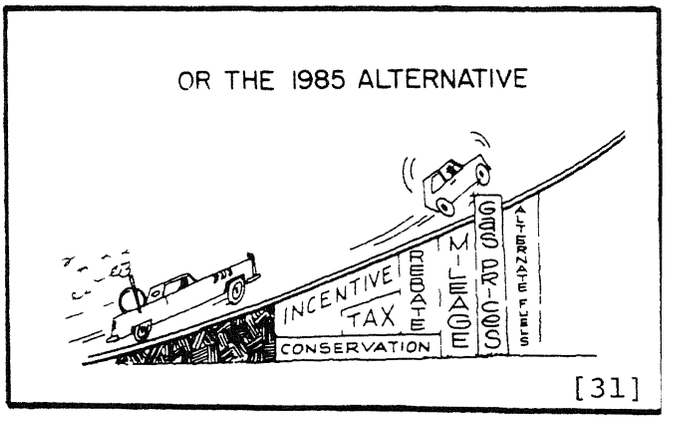
This will lead to greater demand for OPEC oil [29]. While excess OPEC capacity now exists, it is likely that this will be rapidly used up to satisfy increased demand from the U.S., the Soviet Union, Japan, and other importing countries. Once production capacity limits are reached, higher prices will be the only way to ration the oil among the many bidders. Thus the impending crisis is a familiar economic one of supply and demand factors leading to strongly higher prices.

[29]



The 1985 appointment, then, is with an energy price wall that will cause us serious economic problems if we continue our addiction to Mr. Guzz's habit [30]. As noted before, temporary relief from North Slope and North Sea oil will mask this problem until about 1980. Following this period however, prices, in reaction to production capacity constraints will rise sharply.





The 1985 policy alternative is to begin adjusting to the higher price situation now with gradual, rather than sharp, increases and through conservation to help stretch out supplies, reduce imports, and hopefully delay the 1985 appointment for a few years [31]. We probably can not avoid a bump in the road about 1985, but hopefully through action taken now, major economic disruptions can be dampened.

Since the problem is one of prices, let's look briefly at the pricing picture for the various energy sources [32]. Clearly, short-run substitution of energy sources is difficult, but in the long run it is possible to make substantial shifts. Since prices at the well head are regulated, there now exist a series of oil prices that range from a low of just over $5.00 a barrel for old oil, to a high of about $17.00 for oil from the North Slope. This $17.00 price is composed of $11.00 at the well head in Alaska and another $6.00 to bring it through the pipeline and on board ships to the lower 48 states.

U.S. ENERGY PRICES -- 1977

(WELLHEAD. U.S PORT OR MINE MOUTH)

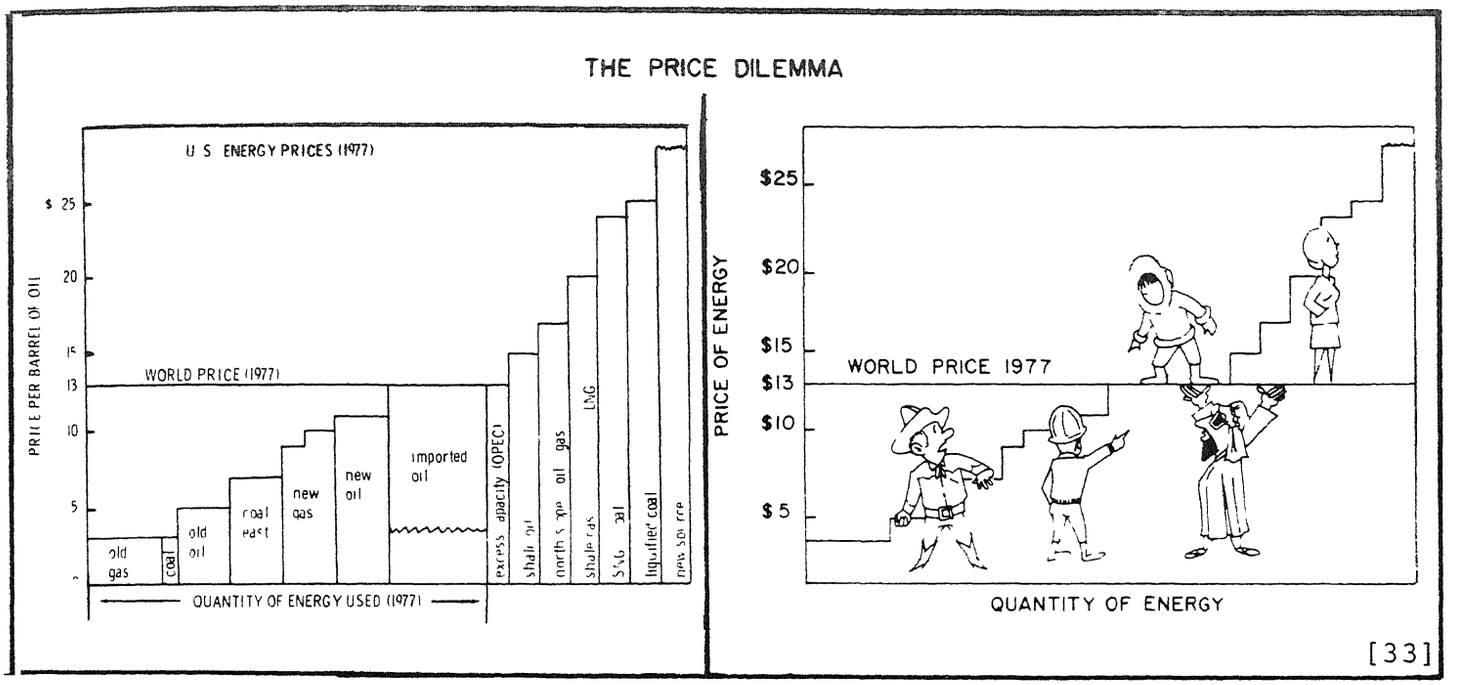
PER BARREL OF OIL EQUIVALENT

OIL		
-- OLD CONTROLLED	$ 5.25	$8.60
-- NEW (SECOND TIER)	11.28	
-- IMPORTED	13.00	
-- SHALE OIL	15.00	
-- NORTHSLOPE (ALASKA)	17 00	
-- TAR SANDS	18 00	
-- LIQUID COAL	25.00	
GAS		
-- INTERSTATE (OLD)	$ 3.00	
-- INTERSTATE (NEW)	9.00	
-- INTRASTATE (NEW)	10.00	
-- NORTH SLOPE	17.00	
-- SHALE GAS	20.00	
-- LNG - IMPORTED	20.00	
-- SNG - COAL	24.00	
COAL		
-- WESTERN COAL	$ 3.00	
-- EASTERN COAL	7 00	

[32]

Regulated gas prcies show a similar pricing structure. In both cases, the new sources of energy are considerably more costly than conventional gas and oil.

The world price of oil is established by the OPEC cartel. This oil was costing the U.S. about $13.00 per barrel in 1977 [33]. This sets a price that is coveted by old and new producers in the

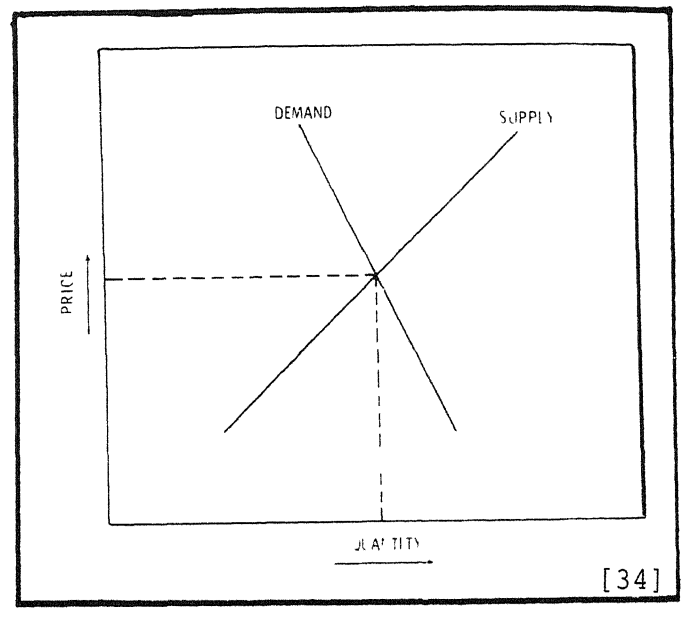


U.S. and raises serious questions about whether this is a true market price that should be honored for U.S. producers. Some feel that supply and demand should be allowed to work even if the supply is held artificially low by the OPEC cartel. Others note that supplies already discovered do not require higher prices for their production, and monopoly or windfall profits should not be allowed across the board. They also argue that the resulting wealth transfers from consumers to producers would be substantial, and while higher prices to consumers may be justified to encourage conservation, it is better to achieve this through a taxing mechanism and then direct the proceeds to developing alternative energy sources.

This is the energy situation within which the political participants are debating national energy policy. Next, we want to examine the third or economic perspective to energy policy.

AN ECONOMIC PERSPECTIVE TO ENERGY POLICY

The market, it's support, manipulation, and control are at the heart of economic policy. An understanding of the efficiencies and limitations of the market, therefore, are basic to an interpretation of economic policy for energy. Let's start with an examination of the supply and demand situation. First, we will provide a little theory so everyone understands what is meant by supply and demand [34]. Supply and demand refer to a relationship between the quantity and price of energy. At higher prices people will demand less, while at low prices they will demand more. Therefore, the demand curve slopes down to the right. Supply is just the opposite. At higher prices producers will supply more, while at lower prices less will be made available. Accordingly the supply curve slopes upward to the right. Happily, these two curves cross, and at that point the amount demanded exactly equals the amount supplied. It is this energy price, where supply and demand are equal, that the free market establishes.



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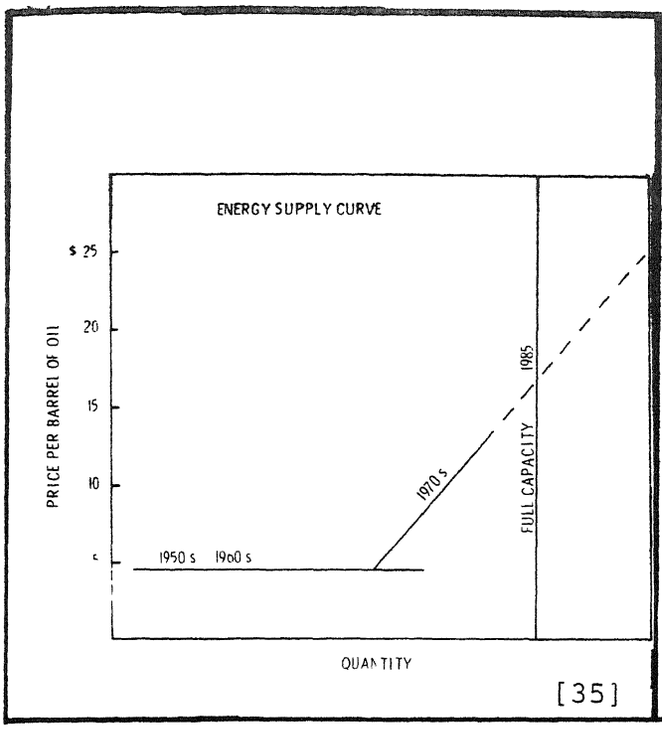

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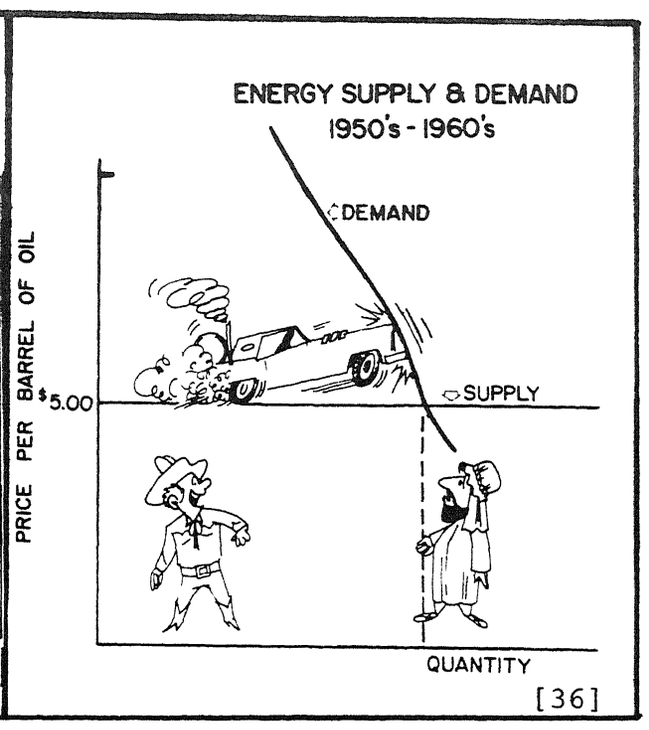
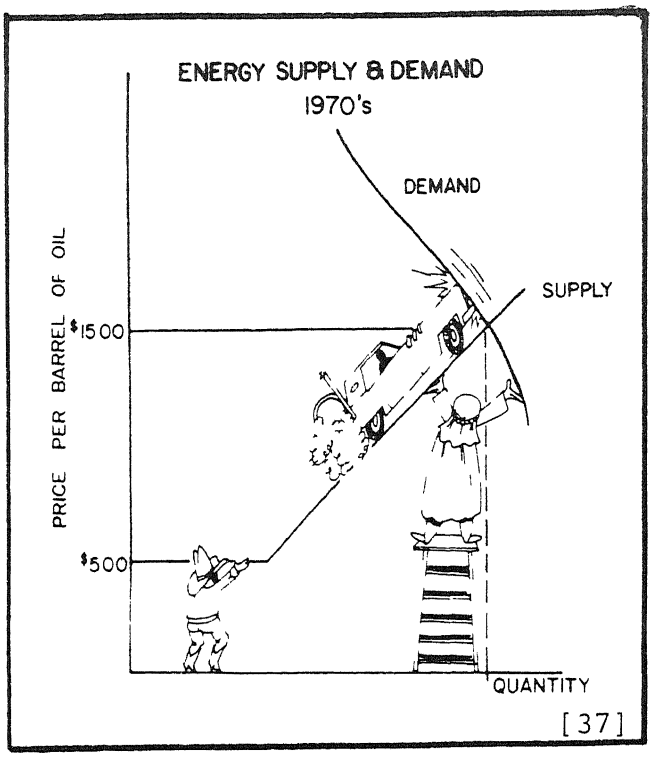
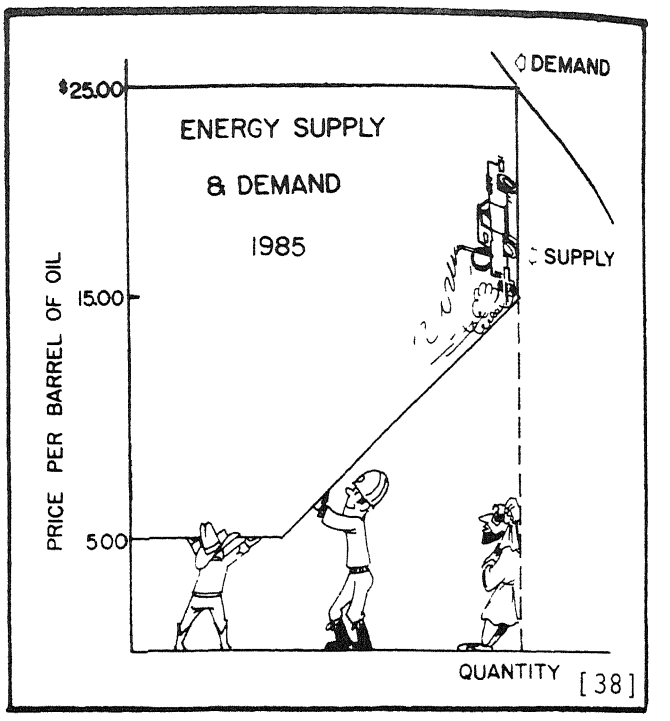


[36]

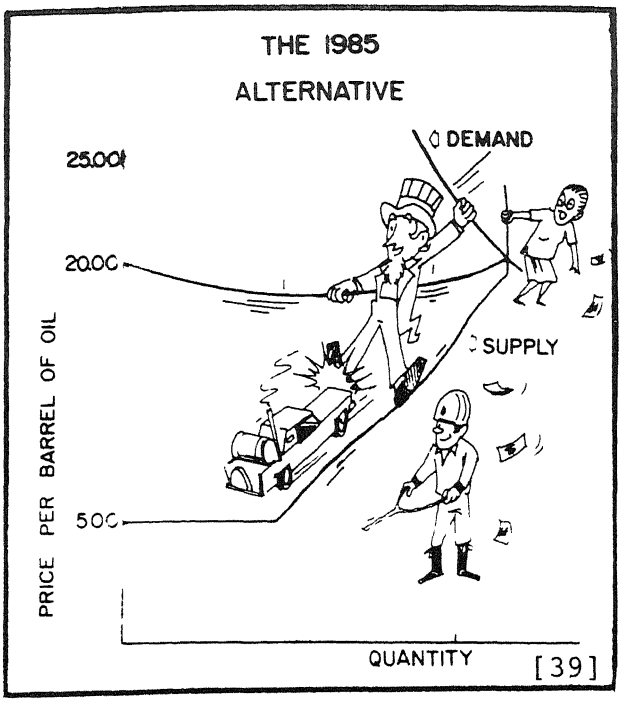
Now if we consider the various energy prices discussed earlier, we can see that they comprise a long run supply curve [35]. Old oil prices established earlier are the basis for the supply curve during the 1950's and 1960's [36]. Most of our supply came from domestic sources, and we perceived of the supply as inexhaustible. Therefore, the supply curve was thought of as largely horizontal. In other words, we could have all the energy we needed at that price. Under these conditions we rapidly increased our demand for oil.

By the 1970's, U.S. production was declining and OPEC oil was being imported in larger quantities. The OPEC countries perceived correctly that we were running low on U.S. supplies and were not inclined to slow down Mr. Guzz in his thirst for more energy. Accordingly they raised the price of oil, and then our supply curve took on the more traditional slope, upward to the right [37].





Now as we look ahead to our appointment with 1985, production capacity will be reached and the supply curve will therefore approximate a vertical position since in the short-run additional supplies will not be available at any price [38]. The fear is that if we don't curb Mr. Guzz's appetite, he will push demand to this point and then since no additional supply will be available, a rapid increase in price will be necessary to ration the fixed amount of oil being produced. Thus, the 1985 appointment is an economic problem of an <u>increasing demand pushing against a relatively fixed supply</u>. Accordingly, the 1985 alternative as proposed by the Administration is to rein in Mr. Guzz and curb our demand for energy while at the same time providing incentives to increase the supply [39]. Taken together, these actions are expected to provide for a lower market clearing price where supply and demand are equated -- a price that will cause less disruptions to our economy.



CARTER PROPOSAL

A) DECREASE DEMAND
- 1 GAS GUZZLER TAX
- 2. MANDITORY MILEAGE STANDARDS
- 3 REBATE ON COMPACTS
- 4 TAX INCENTIVES
  - -- FUEL CONVERSION - INDUSTRY
  - -- INSULATION
  - -- SOLAR HEATING
- 5 WELLHEAD TAX -- OLD OIL
- 6 INCREASE GAS PUMP TAX
- 7 NO VOLUME DISCOUNTS (UTILITY RATES)

B) INCREASE SUPPLY
- 1 TAX INCENTIVES -- FUEL CONVERSION
- 2. NEW OIL EQUAL TO WORLD OIL PRICE (1977)
- 3. NEW GAS EQUAL TO WORLD OIL PRICE (1977)

C) EXCEPTIONS

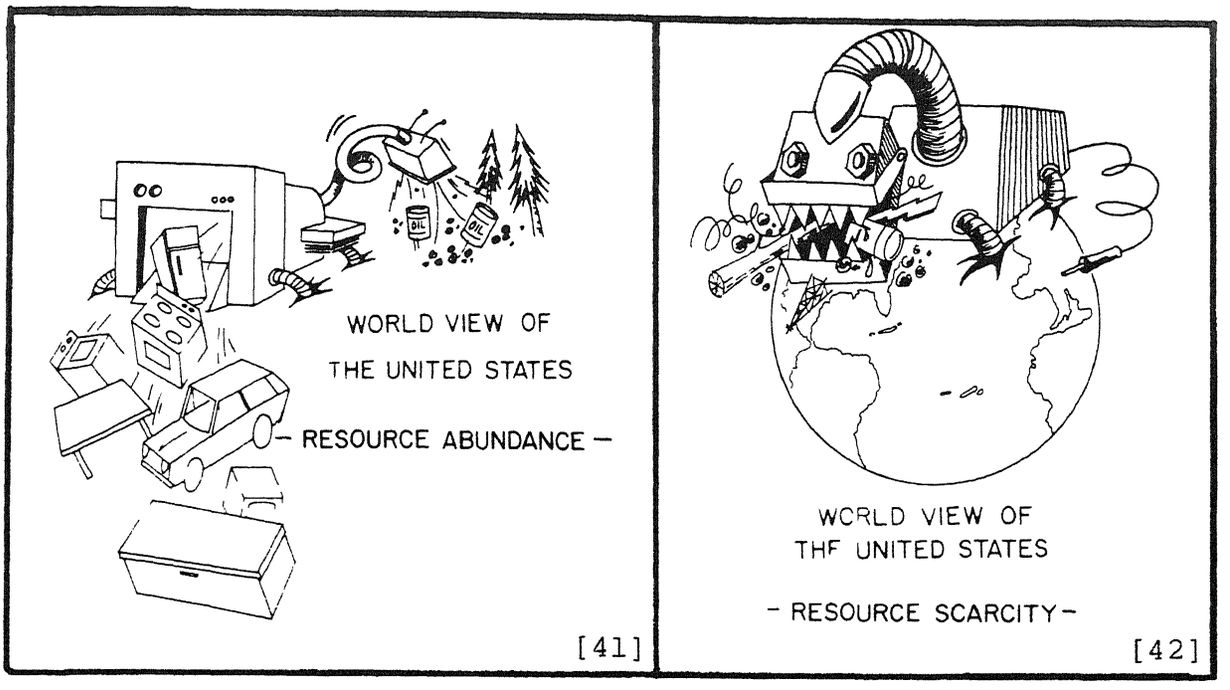
[40]

How will this be accomplished? On the demand side we have suggestions for a series of standards, tax incentives, rebates, and pricing structures that will increase the cost of energy use to consumers and thus reduce demand [40]. On the supply side, price incentives for new oil and gas and for fuel conversion will hopefully increase supplies of gas and oil. It is important to note that these proposals are not independent. Though they are often considered and debated separately and defended or criticized on different bases; in the end it is the collective impact they all have on reducing demand and increasing supply and thus keeping energy prices within acceptable limits that will determine the success of the current policy debate.

POLICY AND ENERGY ECONOMICS

It is clear that the economic perspective for energy is changing rapidly. Supplies are becoming short, prices are increasing and markets, both domestic and international, are coming under greater control either through government or monopoly action. The prospects are that these conditions will intensify in the future.

What significance do these changing economic conditions have for energy policy? In the earlier period of perceived resource (energy) abundance, the role of public policy was basically a facilitating one as it helped the market to adjust supply and demand. As we pass into an era of scarcity of energy, however, it is certain that the role of policy will increase. Why is this so? Let's look at several results of a change from resource abundance to scarcity to identify the factors leading to increased need for policy action.



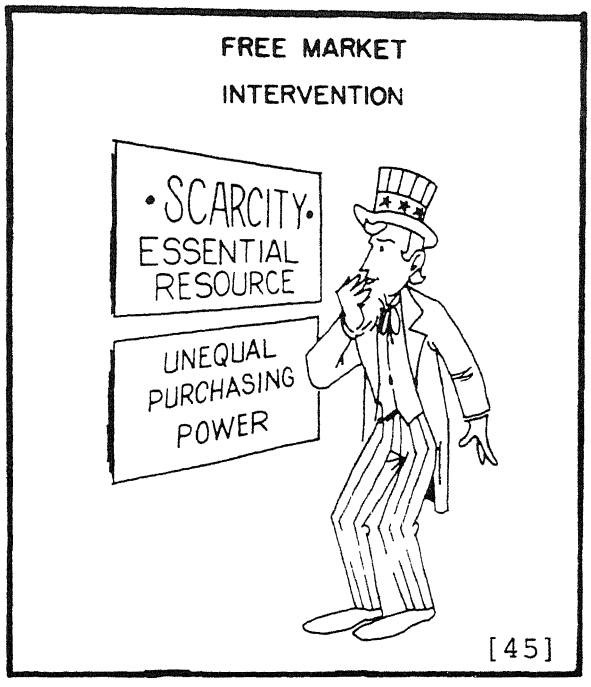
First, at the international level, the U.S. and its economic engine has been admired and emulated as a development model by most of the world [41]. This was especially true when we were producing a range of attractive goods mostly from our own resources.

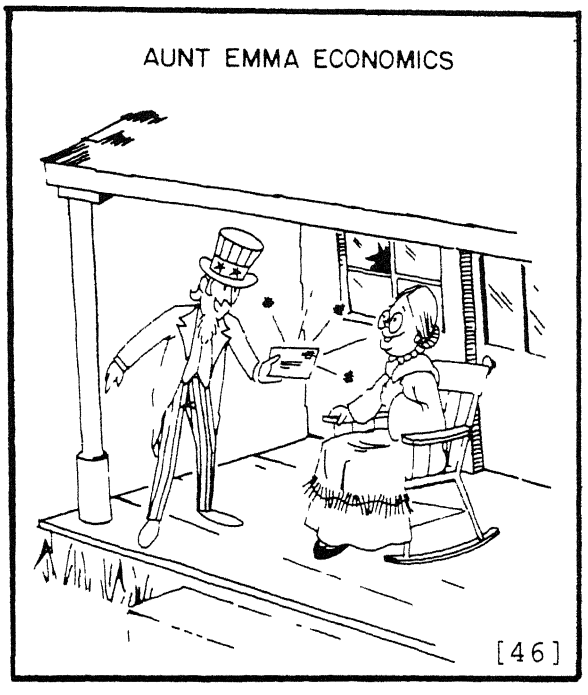
However, now that our resources are becoming depleted and we increasingly turn to world markets to satisfy our appetite for more energy and other resources, we come into more direct competition with areas such as Japan and Europe which have traditionally relied on OPEC supplies [42]. This situation will increasingly cause strain in our international relations and must be considered a part of the energy policy framework.

On the domestic scene, when energy is abundant and low in cost, the market allocates the supplies efficiently and Mr. Guzz and Aunt Emma each in their own way find sufficient quantities at acceptable prices [43].

However, under scarce supplies, as we have seen, the market rations these supplies on the basis of price; thus most energy goes to the highest bidder, in this case Mr. Guzz [44]. If energy, was a non-essential commodity, there would be little policy concern over scarce supplies. However, we consider energy as a necessity for our way of life and become concerned as a society when some individuals are denied access to a sufficient supply of energy.

This condition leads to demands by certain groups in society for intervention in the market [45]. This intervention is triggered by two conditions: (1) a scarce resource that is perceived of as a necessity, such as energy or food, and (2) unequal purchasing power among individuals so that everyone can not bid equally for the scarce commodity. Clearly, the current conditions of our society and it's energy supplies meet these two criteria, and thus we can expect increasing intervention in the market. What forms will this take?

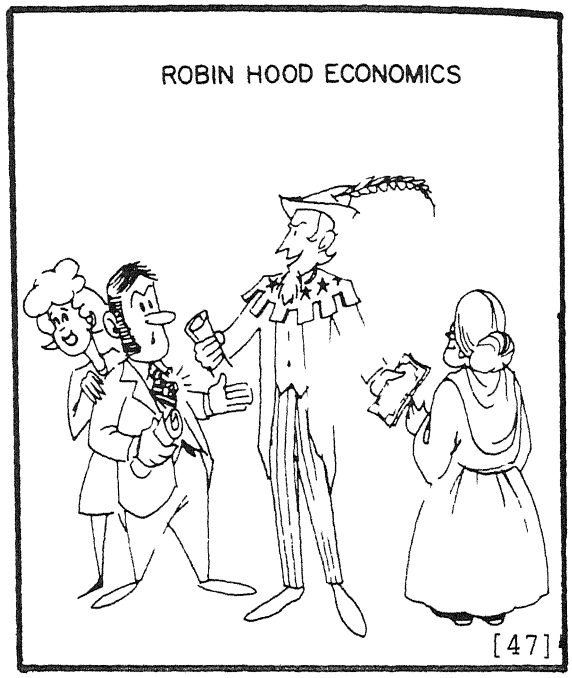


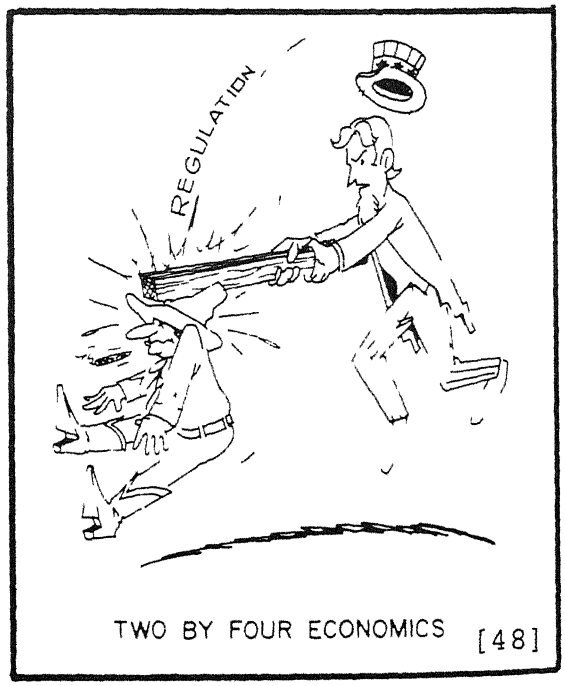


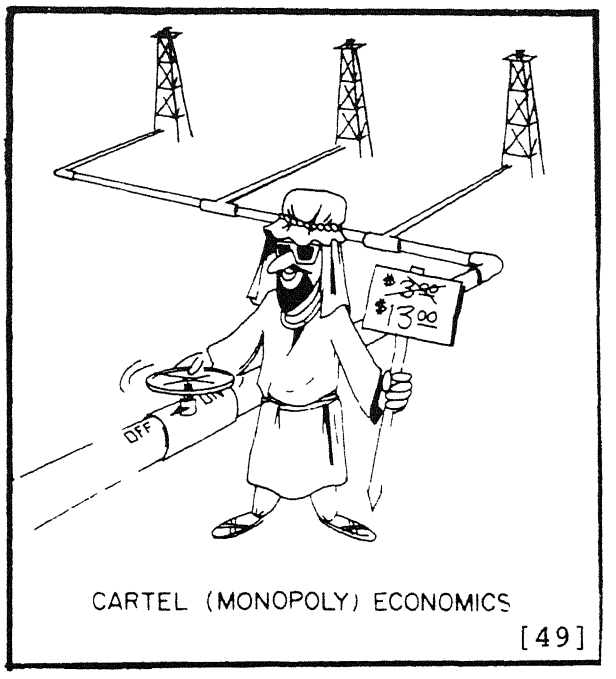
The first, "Aunt Emma Economics", is to provide rebates for poor and fixed income people who cannot afford high energy prices [46]. In the long run some adjustment will have to be made in living style, but the heating bills must be paid this winter. Proposals providing for this form of rebate have already been introduced and passed into law.

"Robin Hood Economics" has been a feature of our tax structure for many years [47]. However, as the impact of higher energy prices become more severe, pressure will increase to further distribute the tax burdens to those who can afford it. Tax relief for poorer people, for example, was one of the initial proposals for disposition of a wellhead tax on oil.

"Two by Four Economics" or outright regulations is another economic policy that accompanies scarcity [48]. Price regulation will continue to be a strongly debated topic. Consumer rationing is possible if import supplies are interrupted for any reason.







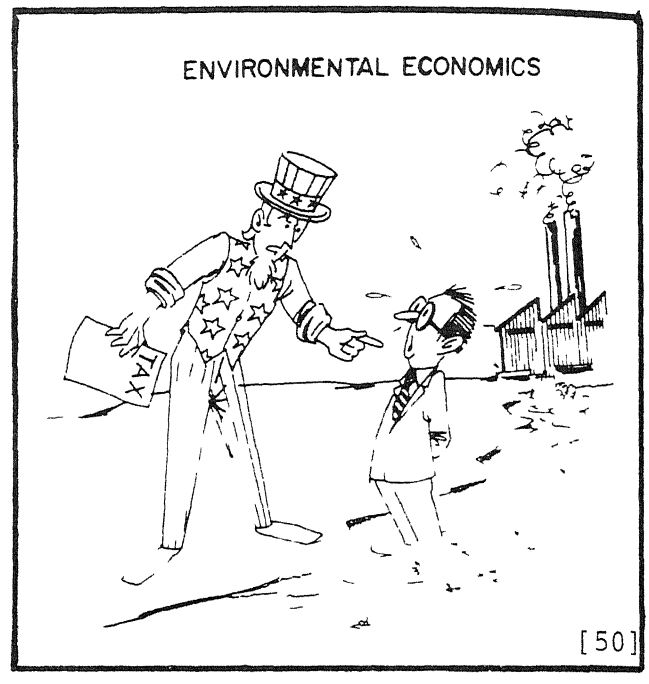
CARTEL (MONOPOLY) ECONOMICS [49]

"Cartel or Monopoly Economics" is difficult to deal with when it is used against you [49]. It carries the possibility of interrupted supplies and thus elicits non-market policies such as reserve stockpiling to deal with it. It is likely that in the energy area, the OPEC monopoly will not persist for very long. It is needed and effective only as long as production capacity (supply) exceeds potential demand. When production capacities are reached, price will rise independent of any action taken by the cartel. At that point, which is now forecast for the mid-1980's, we will likely see the oil producers acting more independently. In some sense, the OPEC cartel may have done us a favor by giving an early warning to get our energy affairs in order.

"Environmental Economics" is also assuming increasing importance as we displace more land in our search for energy and discharge more undesirable residuals from energy use into an increasingly overburdened environment [50]. The temptation is strong to relax standards in a drive to produce and consume more and more energy.

However, a long-run perspective demands that we adopt a balanced approach to energy use that does respect the environment.

"Futura Economics" is the final adjustment we must begin to consider [51]. The free market -- made up of bidders and sellers today -- has a short planning horizon. Tommorrow's citizens are not here to bid on and share in these scarce resources. If they were, they would perhaps outbid us for their use. We haven't paid much attention to these future generation demands. However, as essential resources dwindle and we consider alternatives such as nuclear energy which may leave residuals for thousands of years or massive burning of coal, we must begin to measure the costs to future generations of actions we take today.



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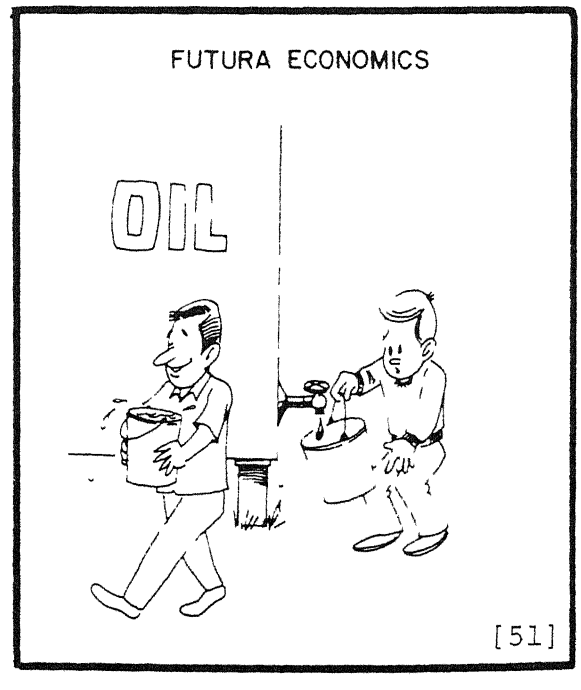

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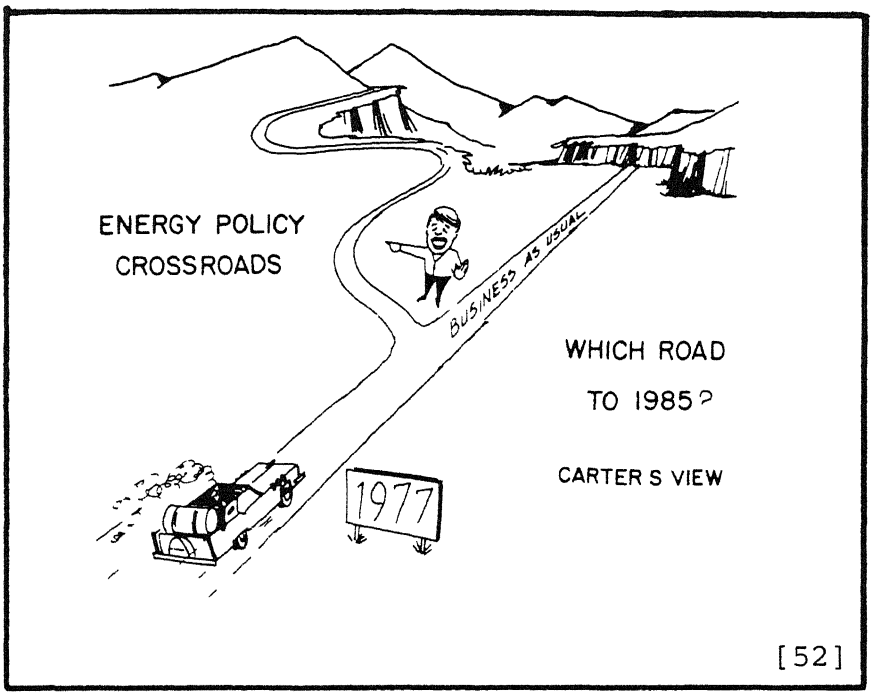
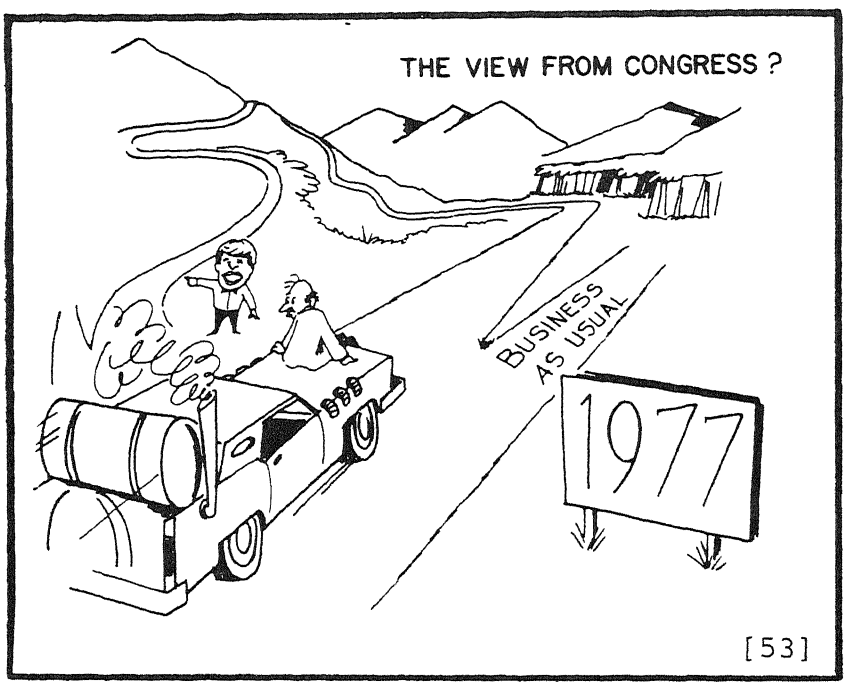
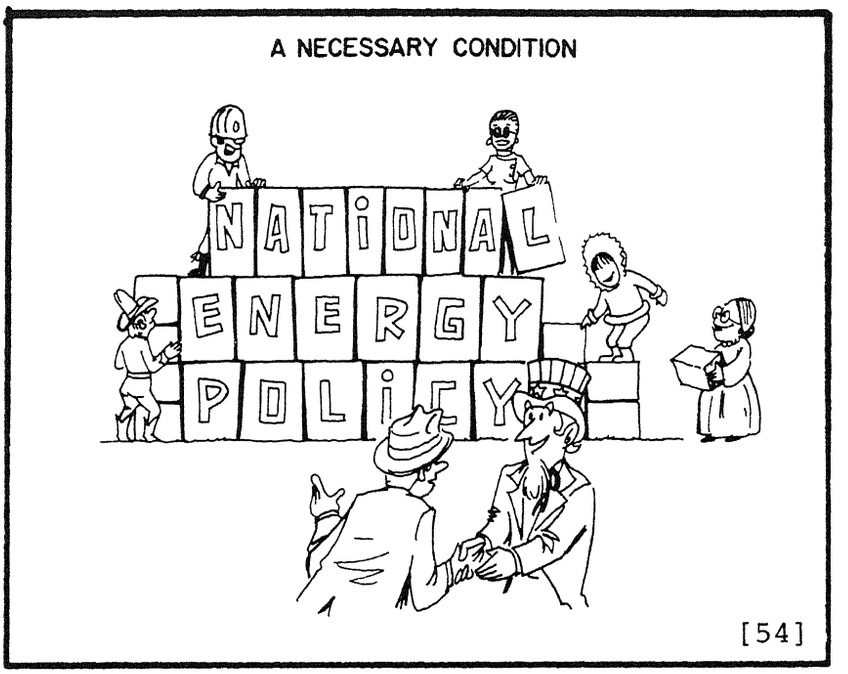
ENERGY POLICY CROSSROADS



This leads us then to the Energy Policy crossroads, "Which Road to 1985?"[52]. We have made some adjustment since the early 1970's, but Mr. Guzz is still largely unchanged. The Administration has pointed out that our present path holds perils down the road about 1985. President Carter's proposal is one alternative path. It suggests taking some immediate steps to curb energy demand and increase both conventional and new sources of supply. There are many other alternatives requiring more or less adjustments than suggested by President Carter.



The view from Congress, which as suggested earlier is really an extension of how we as voters feel about the energy situation, is to opt for a somewhat less rigorous path [53]. The differences between the Administration and Congress are matters of degree and emphasis. The emphasis in Congress is more on increasing supplies of conventional sources and less on conservation. Neither has placed strong emphasis on the development of alternative fuels. Again, the initial energy program will be only a first step. There will undoubtedly be many mid-course corrections as we approach closer to 1985 and get a better view of events around the bend in the road.



Finally, with the many conflicting interests in the energy equation, the resulting national energy policy must have broad public participation and support if it is to be effective [54]. Several positive features seem to be evolving from the current debate. First, the existence of a potentially serious energy problem has been acknowledged by most, and the need to take immediate steps to begin the long and difficult transition from abundant cheap energy to a scarce high cost energy situation is recognized. Perhaps more significantly, the political proces has moved fairly expeditiously toward providing a national program. Whether this program will be sufficient to meet the magnitude of the problem however, is still uncertain.